UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,141	10/31/2003	James Howard Drew	03-8012	3441

25537 7590 05/06/2010

VERIZON
PATENT MANAGEMENT GROUP
1320 North Court House Road
9th Floor
ARLINGTON, VA 22201-2909

EXAMINER
STERRETT, JONATHAN G

ART UNIT	PAPER NUMBER
3623	

NOTIFICATION DATE	DELIVERY MODE
05/06/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patents@verizon.com

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/699,141
Filing Date: October 21, 2003
Appellant(s): DREW ET AL

Mr. Justin Cohen, Reg. 59,964
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 28 October 2009 appealing from the Office action mailed 29 May 2009.

(1) Real Part of Interest

A statement identifying by name the real part of interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

Roth, Philip; Bobko, Philip; "A Research Agenda for Multi-Attribute Utility Analysis in Human Resource Management", 1997, Human Resource Management Review, Volume 7, Number 3, pp.341-368. (hereinafter **Roth**)

Edwards, Jeffrey R; Parry, Mark E; "On the Use of Polynomial Regression as an alternative to Difference Scores in Organizational Research", Dec 1993, The Academy of Management Journal, Vol. 36, NO.6, pp.1577-1613, (hereinafter **Edwards)**

Trocine, Linda; Malone, Linda; "Finding Important Independent Variables Through Screening Designs: A comparison of methods", 2000, Proceedings of the 2000 Winter Simulation Conference, pp.749-754. (hereinafter **Trocine**)

Jacobson, Tom; "Reaching New Heights", June 1999, Credit Union Management, Madison, Vol. 22, Iss. 6, p.50, 4 pgs (hereinafter **Jacobson**)

Official Notice

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims: The ground(s) for rejection are reproduced below from the Final Office Action, mailed 29 May 2009.

1. (Currently Amended) A computer implemented method of determining comparable performance measures for employees having differing task assignments, comprising:

> storing database in a database is well known - the type of data recited here is nonfunctional - the rest of the method steps would be performed the same, as claimed.

storing employee task data in a database of a computing system, wherein said employee task data includes a number of tasks completed and an amount of time spent on at least one completed task;

generating sets of task scores based on a selected model design of said task assignments utilizing said employee task data;

> Roth teaches generating task scores (eg. Interview and cognitive test) as part of multiattribute analysis (MAU).

selecting a centralized composite design as said model design;

> Trocine teaches that factorial analysis provides an indication of what variables in a simulation (model) are important

performing a plurality of evaluations of said sets of task scores, said evaluations assigning productivity scores to said sets of task scores;

> Roth teaches that employee tasks are scored by assigning a productivity score to how an employee performed (e.g. in an interview or an a cognitive test)

analyzing said productivity scores to determine productivity parameters, wherein analyzing said productivity scores comprises applying linear regression techniques to said productivity scores utilizing said computing system; and

> Edwards teaches that the various variables in a multivariable equation (like MAU) can have their coefficients (productivity paramters) determined.

applying said productivity parameters to employee task scores for said employees to obtain said performance measures for said employees.

> With the variables determined (Trocine) and the coefficients for those variables determined (Edwards), then a POSITA would combine the task scores using the MAU approach of Roth

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 3 and 5-28 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1 and 22 are rejected under 35 U.S.C. 101 based on Supreme Court precedent, and recent Federal Circuit decisions, the Office's guidance to examiners is that a § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing. Diamond v. Diehr, 450 U.S. 175, 184 (1981); Parker v. Flook, 437 U.S. 584, 588 n.9 (1978); Gottschalk v. Benson, 409 U.S. 63, 70 (1972); Cochrane v. Deener, 94 U.S. 780,787-88 (1876).

An example of a method claim that would <u>not</u> qualify as a statutory process would be a claim that recited purely mental steps. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the

method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

Here, applicant's method steps, fail the first prong of the new Federal Circuit decision since they are not tied to another statutory class and can be performed without the use of a particular apparatus. Thus, **Claims 1 and 22** are non-statutory since it may be performed within the human mind. Dependent **Claims 3 and 5-21 and 23-28** are not statutory at least for the reasons given above for **Claims 1 and 22**.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. **Claims 1-5, 8-19, 22, 24 and 25-32** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Roth**, Philip; Bobko, Philip; "A Research Agenda for Multi-Attribute Utility Analysis in Human Resource Management", 1997, Human Resource Management Review, Volume 7, Number 3, pp.341-368. (hereinafter **Roth**) in view of **Edwards**, Jeffrey R; Parry, Mark E; "On the Use of Polynomial Regression as an alternative to Difference Scores in Organizational Research", Dec 1993, The Academy of Management Journal, Vol. 36, NO.6, pp.1577-1613, (hereinafter **Edwards)**; in view of

Trocine, Linda; Malone, Linda; "Finding Important Independent Variables Through Screening Designs: A comparison of methods", 2000, Proceedings of the 2000 Winter Simulation Conference, pp.749-754, (hereinafter **Trocine)**.and further in view of **Official Notice**

Regarding **Claim 1**, Roth teaches:

A method of determining comparable performance measures for employees having differing task assignments, comprising:

generating sets of task scores based on a selected model design of said task assignments;

Page 352 para 1 and 2, sets of task scores are generated based on the Multi-Attribute Utility (MAU) approach to evaluating performance (note on page 1 that MAU can be used to evaluate job performance).

performing a plurality of evaluations of said sets of task scores, said evaluations assigning productivity scores to said sets of task scores;

page 343 para 2 and 3, the evaluations of the employees result in sets of task scores for the various attributes (e.g. interviews and cognitive ability test).

analyzing said productivity scores to determine productivity parameters;

page 353, Section 4 (last para), the combination of the attributes into a single score requires analyzing the scores to determine the weights (i.e. productivity parameters) for how they are combined – see also page 354 bottom paragraph – the

MAU approach combines utility functions represented by the different inputs – these utility functions represent the scored attributes that are weighted and combined for a single score. This section also discusses that the utility functions that are combined may be either linear or nonlinear.

and applying said productivity parameters to employee task scores for said employees to obtain said performance measures for said employees.

page 343 last para, the various score generated in an MAU analysis are combined such that the result of the MAU analysis results in a single score.

Roth teaches on page 345 para 4-5 that employees have different values of contribution based on their performance; Also on page 347 Table 1, feedback and goal-setting is provided for organizational productivity that is multi-faceted – the idea that there are different factors contributing to productivity.

Roth does not teach where the evaluation method is for evaluating different employees who are performing different tasks. However, Official Notice is taken that it is old and well known in the art for individuals in an organization to perform different tasks. Since Roth teaches using different utility functions that are combined to represent different factors as an input into productivity, it would have been obvious to one of ordinary skill in the art to modify those teachings to include applying the utility function idea to the different tasks performed by different employees, because it would provide a way to provide a comparative measure of different employee's contributions to a firm's productivity, thus improving the ability of the firm to value different employees.

Roth teaches the need to combine various functions in a weighted manner (i.e. weights are associated with the functions so they can be added together to result in a total number - as per the MAU approach). However Roth does not teach using linear regression techniques to determine the weights for the combination of the individual utility functions as per:

The method of claim 1, wherein said analyzing comprises applying linear regression techniques to said productivity scores.

Edwards teaches:

wherein said analyzing comprises applying linear regression techniques to said productivity scores.

page 1579 last para (see also equation 6 on this page).

Edwards teaches applying linear regression techniques to understand the relationship between measurable factors such that coefficients can be determined so those factors can be combined (the factors, e.g. X and Y, are functions to be combined to provide a score).

As noted above, Roth's teaches that there are separate functions, i.e. utility functions, that are weighted to be combined such that a score results.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Roth to include the determination of coefficient values as provided by the linear regression techniques of Edwards, because it would improve the determination of the coefficients of the utility functions to be combined by using the well known and reliable technique of linear regression (i.e. polynomial linear regression).

Roth teaches the use of MAU variables with weights to determine a productivity score, but Roth does not teach using a design of experiments (i.e. a DOE, aka a response surface methodology) as per:

selecting a centralized composite design as said model design.

Trocine teaches:

selecting a centralized composite design as said model design.

Page 750 column 2 para 1 under sect 2.1, a factorial design is a centralized composite design. Trocine teaches limiting the number of variables (i.e. a limited factorial design) to limit the number of model runs that need to be performed (e.g. with k=15 a fractional factorial still means that 128 experiments or runs of the model ned to be performed).

Trocine teaches the use of fractional factorial experiments as a way to identify significant variables in a dataset (see page 749 column 1 para 1 under section 1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Roth, regarding using A MAU approach to identify factors to be combined with coefficients, to include the step of using a factorial design DOE to identify those variables, because it would provide a way to estimate those coefficients using proven DOE techniques and thus improve the estimation of productivity using the MAU approach taught by Roth.

Roth, Edwards and Trocine all address analyzing data (Roth and Edwards deal specifically with employee performance data.

However, Roth, Edwards and Trocine do not explicitly teach:

storing employee task data in a database of a computing system, wherein said employee task data includes a number of tasks completed and an amount of time spent on at least one completed task;

However, Official Notice is taken that storing data, such as the employee performance data such as taught by Roth, in a database of a computing system is old and well known in the art, and would have provided a predictable result in combination with the teachings of Roth, Edwards and Trocine because it would have provided a way to analyze data since it is stored in a database.

Roth, Edwards and Trocine teach the analysis of data (Roth teaches MAU applied to employee performance data, Edwards teaches applying regression to various aspects of job performance, Trocine teaches general techniques for analyzing data), however they do not teach the specific data claimed, i.e. number of tasks completed and an amount of time spend on at least one completed task. Therefore the claims would not patentably distinguish over the cited references because the claimed functionality of what is done with the data is the same. I.e., the recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of patentability, *see In re Gulack, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); In re Lowry, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP ' 2106.*

;

Regarding **Claim 3**, Roth notes that utility functions can be used in evaluation of employee performance (page 1 last para - page 2 first para). These utiliity functions combined provide a single output value (i.e. a productivity value). Roth teaches individual tasks that a person performs where the tasks are combined in a utility function. Roth does not teach a second order polynomial of the form A + B X + C X^2, where the A, B and C are constants and the productivity score is a second order polynomial in X (where X is a task).

However, the idea of using a second order polynomial with coefficients (i.e. an A, B and C) is old and well known in the art as a modeling approach as taught by Edwards (see page 1579 equation 6 - here the total score is a function of A (i.e. B sub o), B (i.e. B sub 1) and C (i.e. B sub 3) in the second order with respect to X (including the B and C terms times X and X^2, respectively).

Edwards teaches that using polynomial regression provides a way to achieve a predictable result (since the mathematics utilized by regression are very well known in the art) – see page 1578 para 1.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Roth to include the polynomial regression approach of Edwards, because it would have improved the estimation of productivity using a well known approach of regression to provide a predictable result in estimating the effects of the coefficients of tasks for use in an equation that calculates productivity

Regarding **Claim 5**, Roth does not teach:

wherein generating said sets of task scores comprises:

determining whether said sets of task scores exceed a predetermined number; and

modifying said centralized composite design by a fractional factorial when said sets of task scores exceed said predetermined number.

Trocine teaches that screening designs to identify variables can result in excessive runs or experiments as provided by a full factorial and even a fractional factorial can result in a large number of experiments.

Trocine teaches limiting based upon a predetermined number of variable (page 751 column 2 bottom para) Trocine teaches that the combinations of runs required by a fractional factorial can result in a large number of required experiments and the desired result of using a fractional factorial is to avoid the excessive number of runs required by a full factorial. The guidelines suggested by Trocine teach the determining and modifying steps - i.e. limiting the number of variables to 20.

It would have been obvious to one of ordinay skill in the art at the time of the invention to modify the teachings of Roth and Trocine to further include limiting the task scores by a predetermined number in performing a fractional factorial, because it would make performance of the DOE manageable by limiting the number of experimental runs required.

Claim 14 recites limitations similar to those addressed by the rejection of **Claim 5** above, and therefore is rejected under the same rationale.

Regarding **Claim 8**, Roth teaches:

The method of claim 1, wherein generating comprises adding a number of recorded task scores to said sets of task scores.

Page 352 last para, the development of various scores by group members suggests the development of more than one set of scores, i.e. thus adding a number of recorded scores to a base set of scores.

Regarding **Claim 9**, Roth teaches:

The method of claim 8, wherein said sets of task scores are scaled to represent performance by employees over a common work period,

page 343 para 3,4, the MAU approach includes combining attributes based on factors (i.e. they are scaled). Since the particular tasks are an interview and a test, this suggests work performed over a common period.

Roth does not teach:

with a fixed number of hours worked.

However Official Notice is taken that using such a measure is known in the art to provide normalization, i.e. a standardization of what time workers work such that a comparison can be made between the amount of work achieved.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Roth's teachings to include measuring productivity over a fixed

number of hours, because it would ensure a standard comparison is made between employees.

Regarding **Claim 10**, Roth teaches:

The method of claim 1, wherein said plurality of evaluations are performed by a plurality of evaluators, said evaluators being familiar with said task assignments and with assigning productivity scores.

Page 350 para 2, Roth teaches various techniques for assigning scores where the assigners are familiar with what is being rated and in assigning scores.

Regarding **Claim 11**, Roth teaches:

The method of claim 10, comprising:

assigning evaluator parameters to each of said plurality of evaluators;

page 357 last para, parameters are assigned to the evaluators such that correlation coefficients are calculated.

comparing said plurality of productivity scores assigned by each of said evaluators using said evaluator parameters in analyzing said productivity scores

page 357 last para, correlation coefficients are compared across the evaluators.

Roth does not teach where the scores are compared **to determine anomalous ones of said plurality of evaluations**;

removing said anomalous ones of said plurality of evaluations; and

returning to analyzing said productivity scores.

However, Official Notice is taken that it is old and well known in the art to determine and remove anomalous data points for the purpose of improving accuracy of results in an analysis.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Roth to include determining and removing anomalous scores, because it would improve the accuracy of the overall MAU analysis.

Claim 12 recites limitations addressed by the rejection of **Claim 9** above, and is therefore rejected under the same rationale.

Regarding **Claim 13**, Roth teaches:

The method of claim 10, wherein generating comprises adding a number of recorded task scores to said sets of task scores,

Page 352 last para, the development of various scores by group members suggests the development of more than one set of scores, i.e. thus adding a number of recorded scores to a base set of scores.

and using productivity scores assigned to said recorded task scores for each of said evaluators as one of said evaluator parameters

page 357 last para, correlation coefficients are compared across the evaluators – these correlation coefficients are based on the recorded task scores provided by the evaluators.

Claims 15 and 16 recite similar limitations to those addressed by the rejection of **Claims 2 and 3** above, and are therefore rejected under the same rationale.

Claims 17-19 recites similar limitations to those addressed by the rejection of **Claims 10-11 and 13** above by Roth, and are therefore rejected under the same rationale.

Claim 22 recites similar limitations to those addressed by the rejection of **Claims 2 and 3** above by Roth and Edwards, and are therefore rejected under the same rationale.

Claim 24 recites similar limitations to those addressed by the rejection of **Claim 8** above by Roth, and is therefore rejected under the same rationale.

Claim 25 recites similar limitations to those addressed by the rejection of **Claim 9** above by Roth, and is therefore rejected under the same rationale.

Claim 26 recites similar limitations to those addressed by the rejection of **Claim 10** above by Roth, and is therefore rejected under the same rationale.

Claim 27 recites similar limitations to those addressed by the rejection of **Claim 11** above by Roth, and is therefore rejected under the same rationale.

Claim 28 recites similar limitations to those addressed by the rejection of **Claim 13** above by Roth, and is therefore rejected under the same rationale.

Claim 29 recites similar limitations to those addressed by the rejection of **Claim 22** above by Roth, and is therefore rejected under the same rationale. Furthermore regarding **Claim 29**, Roth and Edwards do not explicitly teach performing his method using computer readable medium containing instructions for causing a computer system to perform method steps, however Official Notice is taken that performing the method steps taught by Roth and Edwards using computer software running on a computer system is old and well known in the art. Using this approach is known to make method steps faster and more efficient since they are running on a computer. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Roth and Edwards to perform their method steps using computer software running on a computer system, because it would make performance the of the method steps faster and more efficient since they are running on a computer.

Claims 30-32 recite similar limitations to those addressed by the rejection of **Claims 10-11 and 13** above by Roth, and are therefore rejected under the same rationale.

6. **Claims 6, 7, 20, 21 and 33** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Roth** in view of **Edwards** in view of **Trocine** and further in view of Jacobson, Tom; "Reaching New Heights", June 1999, Credit Union Management, Madison, Vol. 22, Iss. 6, p.50, 4 pgs. (hereinafter **Jacobson**).

Regarding **Claim 6**, Roth does not teach:

The method of claim 1, comprising:

calculating statistical measures for said performance measures over a time period; and

identifying employees having performance measures outside a range of said statistical measures.

and as per Claim 7,

The method of claim 6, comprising identifying trends in said performance measures over multiple ones of said time period.

Page 3 para 2, the charting of an agents performs suggests a continual tracking of the agent's performance to identify how they are performing over time.

Jacobson teaches, as per Claim 6:

calculating statistical measures for said performance measures over a time period; and

page 3 para 2-3, variance management is calculating statistical measures for an agent over a period of time

identifying employees having performance measures outside a range of said statistical measures.

Page 3 para 4, employees are identified which fall outside the control limits (i.e. the range of statistical measures, since the article is discussing using SPC charts).

And as per Claim 7

comprising identifying trends in said performance measures over multiple ones of said time period.

Page 3 para 2, the charting of an agents performs suggests a continual tracking of the agent's performance to identify how they are performing over time.

Jacobson teaches that this approach provides a continuous improvement approach to managing a company such that employees are continuously improving (page 4 #8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Roth to include the SPC charting techniques of Jacobson, because it would improve employees performance by instilling a sense of continuous improvement in the workforce.

Claim 33 recites similar limitations to those addressed by the rejection of **Claim 6** above by Roth and Jacobson, and is therefore rejected under the same rationale.

Regarding **Claim 20**, Roth, Trocine and Edwards do not teach:

calculating statistical measures for said performance measures over a time; and

identifying employees having performance measures outside a range of said statistical measures.

And as per **Claim 21**

comprising identifying trends in said performance measures over multiple ones of said time period.

Jacobson teaches:

calculating statistical measures for said performance measures over a time period; and

page 3 para 2-3, variance management is calculating statistical measures for an agent over a period of time

identifying employees having performance measures outside a range of said statistical measures.

Page 3 para 4, employees are identified which fall outside the control limits (i.e. the range of statistical measures, since the article is discussing using SPC charts).

And as per Claim 21

comprising identifying trends in said performance measures over multiple ones of said time period.

Page 3 para 2, the charting of an agents performs suggests a continual tracking of the agent's performance to identify how they are performing over time.

Jacobson teaches that this approach provides a continuous improvement approach to managing a company such that employees are continuously improving (page 4 #8).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Roth, Trocine and Edwards regarding using a model that provides a productivity calculation for individual employees to include the SPC charting techniques of Jacobson based on productivity scores provided by this model, because it would improve employees performance by instilling a sense of continuous improvement in the workforce.

7. **Claim 23** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Roth** in view of **Edwards** and further in view of **Trocine**.

Regarding **Claim 23**, Roth and Edwards do not teach:

determining whether said sets of task scores exceed a predetermined number; and

modifying said centralized composite design by a fractional factorial when said sets of task scores exceed said predetermined number.

Trocine teaches:

determining whether said sets of task scores exceed a predetermined number; and

modifying said centralized composite design by a fractional factorial when said sets of task scores exceed said predetermined number.

Trocine teaches that screening designs to identify variables can result in excessive runs or experiments as provided by a full factorial and even a fractional factorial can result in a large number of experiments.

Trocine teaches limiting based upon a predetermined number of variable (page 751 column 2 bottom para) Trocine teaches that the combinations of runs required by a fractional factorial can result in a large number of required experiments and the desired result of using a fractional factorial is to avoid the excessive number of runs required by a full factorial. The guidelines suggested by Trocine teach the determining and modifying steps - i.e. limiting the number of variables to 20.

It would have been obvious to one of ordinay skill in the art at the time of the invention to modify the teachings of Roth and Edwards to further include limiting the task scores by a predetermined number in performing a fractional factorial, because it would make performance of the DOE manageable by limiting the number of experimental runs required. The combination of Roth and Edwards teaches determining a polynomial model that produces a productivity score – modifying these teachings provides a predictable result by optimizing Roth and Edward's polynomial system using the well known DOE techniques taught by Trocine.

8. Claim 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Roth** in in view of **Edwards** in view of **Trocine** and further in view of **Jacobson.**

Regarding **Claim 34**, Roth and Jacobson teach the limitations addressed in Claim 6 above, and Roth and Jacobson do not teach:

a second order polynomial of the form A + B X + C X^2, where the A, B and C are constants and the productivity score is a second order polynomial in X (where X is a task).

However, the idea of using a second order polynomial with coefficients (i.e. an A, B and C) is old and well known in the art as a modeling approach as taught by Edwards (see page 1579 equation 6 - here the total score is a function of A (i.e. B sub o), B (i.e.

B sub 1) and C (i.e. B sub 3) in the second order with respect to X (including the B and C terms times X and X^2, respectively).

Edwards teaches that using polynomial regression provides a way to achieve a predictable result (since the mathematics utilized by regression are very well known in the art) – see page 1578 para 1.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Roth, Trocine and Jacobson to include the polynomial regression approach of Edwards, because it would have improved the estimation of productivity using a well known approach of regression to provide a predictable result in estimating the effects of the coefficients of tasks for use in an equation that calculates productivity.

(10) Response to Argument

The applicant's arguments have been fully considered but they are not persuasive.

The applicant argues that the recitation in the preamble of the method being computer implemented and the recitation of the analysis being performed "utilizing said computing system" provide a tie to a particular apparatus or machine.

The examiner respectfully disagrees.

The recitation in the preamble fails to positively recite a tie to a particular apparatus. This deficiency fails to meet the criteria of 35 USC 101. Furthermore, the recitation that the analysis is performed "utilizing said computing system" fails to positively recite a tie to a particular machine or apparatus.

The use of the word "utilizing" does not provide a tie to a computer system for the analysis. For example, one could use a computer spreadsheet to prepare one's taxes in that addition and subtraction is performed using the spreadsheet as an adding machine. However, even though a computer as such is utilized, the preparation of the taxes is essentially performed by a person who uses a computer spreadsheet, rather than being tied to the computer spreadsheet (i.e. as in the case of the spreadsheet being programmed or automated as a wizard to prepare the person's taxes for them). Thus the breadth of the phrase "utilizing a computer system" fails to positively recite a tie to a particular machine or apparatus. The other claim limitations have no tie or link whatsoever to a particular machine or apparatus. Taken as a whole, the claims thus fail to positively recite a tie to a particular machine or apparatus and are not statutory re 35 USC 101.

The applicant argues that the official notice has been timely and effectively traversed and that the examiner has failed to withdraw the Official Notice in response to the applicant's objections or to provide the necessary references.

The examiner respectfully disagrees:

In the Nonfinal Office Action of 4-1-08, the examiner took Official Notice that:

(1) **it was old and well known in the art for individuals in an organization to perform different tasks** (see page 4)

(2) **measuring work among employees over a common period is known in the art to provide normalization, i.e. a standardization of what time workers work such that a comparison can be made between the amount of work achieved** (see page 5).

(3) **it is old and well known to determine and remove anomalous data points for the purpose of improving accuracy of results in an analysis** (see page 7)

(4) **that performing method steps using a computer is old and well known in the art since it improves the efficiency and speed of the method** (see page 12)

In the applicant's response of 7-1-2008 (see pages 12 and 13), the applicant's response to the Official Notice in no instant argued why the subject's of the Official Notices taken above were not old and well known, but rather made blanket traversals of

the instances of Official Notice. The applicant did not even point out what the Official Notices were, but rather made a blanket traversal for all the instances taken.

The examiner made a second nonfinal on 10-14-08 (due to new grounds of rejection under 35 USC 101 re statutory tie to a machine or apparatus). In this nonfinal, the examiner pointed out to the applicant that (see pages 2-4):

> "While the applicant generally traverses the taking of Official Notice, nowhere does the applicant provide any evidence or specific argument that any of the instances of Official Notice are not old and well known in the art. The examiner would point out two facts from the MPEP to the applicant regarding Official Notice. The first is that Official Notice may not be used regarding esoteric elements of technology (from the MPEP "**For example, assertions of technical facts in the areas of esoteric technology or specific knowledge of the prior art**". The examiner's position is that none of the takings of Official Notice regard esoteric facts. For example, the examiner took ON that it is old and well known in an organization for individuals to perform different tasks. And further the examiner took ON that it is old and well known to remove outliers from a probabilistic distribution. These are not esoteric elements. Is the applicant arguing that these are the esoteric, cutting edge elements of the invention?
>
> The second thing that the examiner would point out to the applicant is that an effective traversal of Official Notice requires "**To adequately traverse such a**

finding, an applicant must specifically point out the supposed errors in the examiner's action, which would include stating why the noticed fact is not considered to be common knowledge or well-known in the art. See 37 CFR 1.111(b). " The applicant has not specifically pointed out why the ON's are not considered to be common knowledge in the prior art. The blanket traversals by the applicant does not meet this standard.

Because the traversal is a blanket traversal, the MPEP provides the examiner for "**If applicant does not traverse the examiner's assertion of official notice or applicant's traverse is not adequate, the examiner should clearly indicate in the next Office action that the common knowledge or well-known in the art statement is taken to be admitted prior art because applicant either failed to traverse the examiner's assertion of official notice or that the traverse was inadequate**." As the examiner had indicated above why the traversal is inadequate, the subjects of the Official Notices are taken to be admitted prior art."

Thus the four instances of Official Notice taken above were taken, as of the NonFinal of 10-14-08, to be admitted prior art, and the applicant was informed of this in that NonFinal.

In the Final Office Action of 5-29-09, the examiner maintained these Official Notices and added:

(5) **that it was old and well known in the art to store data, such as the employee performance data taught by Roth, in a database of a computing system**.

In the after final of 7-28-09, the applicant made a blanket traversal again of the Official Notices taken , and did not even mention this last Official Notice specifically, much less provide any argument as per 37 CFR 1.111(b), as to why it was not old and well known to store data in a database of a computing system.

On pages 21 and 22 of the appeal brief, the applicant alleges that

(1) the official notice was improper *and* the examiner must support each instance of official notice

(2) no instance of official notice is admitted prior art

(3) Official Notice is not limited to the two explicitly stated instances

(4) the two instances of Official Notice are overbroad and inapplicable to the claim limitations.

The examiner finds none of these arguments persuasive for the following reasons:

(1). As per above, the applicant was given ample notice that official notice was taken. The applicant did not effectively traverse the official notices taken by pointing out why the subjects of the official notices were not old and well known in the art as per 1.111(b) and MPEP 2144.03 [R6]. Instead the applicant made blanket statements

traversing the Official Notices and demanding that the rejections be withdrawn.

(2) The applicant was informed that their traversal was inadequate as per the MPEP and that, according to the MPEP, the subjects of the official Notices taken were admitted prior art.

(3) The examiner never stated that the examples given of the official notice were the only two given. The examiner notes the use of "For example" as per

For example, the examiner took ON that it is old and well known in an organization for individuals to perform different tasks. And further the examiner took ON that it is old and well known to remove outliers from a probabilistic distribution. (see the Nonfinal of 10-14-08, page 3).

(4) While the applicant alleges that the official notices taken are overbroad and inapplicable, the applicant makes no argument as to why they are overbroad or why they fail to meet the claim limitations. This is mere allegation.

The applicant argues that the cited references fail to teach the limitations of claim 1 as per:

A computer implemented method of determining comparable performance measures for employees having differing task assignments, comprising:

storing employee task data in a database of a computing system, wherein said employee task data includes a number of tasks completed and an amount of time spent on at least one completed task;

generating sets of task scores based on a selected model design of task assignments utilizing said employee task data;

selecting a centralized composite design as said model design;

performing a plurality of evaluations of said sets of task scores, said evaluations assigning productivity scores to said sets of task scores;

analyzing said productivity scores to determine productivity parameters, wherein analyzing said productivity scores comprises applying linear regression techniques to said productivity scores utilizing said computing system; and

applying said productivity parameters to employee task scores for said employees to obtain said performance measures for said employees.

As per (1), the applicant argues that:

storing employee task data in a database of a computing system, wherein said employee task data includes a number of tasks completed and an amount of time spent on at least one completed task

is not taught by the cited references.

However, this argument is not persuasive for the following reasons:

Roth and Edwards deal with analyzing employee performance data (Roth teaches analysis using multi-attribute utility analysis and Edwards teaches using polynomial regression to analyze various aspects of Job performance). Furthermore Roth addresses using task data of job performance (i.e. interview and cognitive ability test) in an MAU analysis (page 343 para 2 and 3). It was noted that neither of these

references teach storing of employee data in a database, but that storing data in a database is old and well known as per Official Notice. Thus, storing the employee task data of Roth and job performance data of Edwards in a database provides a predictable result, i.e. the data can be used later for analysis. While it was noted that Roth and Edwards do not teach the specific data stored (number of tasks completed and amount of time spent on a task), that the mere storing of data in a database makes the type of data irrelevant, since the storing of data is functionally and structurally the same, regardless of the data type.

As per (2), the applicant argues that:

generating sets of task scores based on a selected model design of task assignments utilizing said employee task data;

is not taught by the cited references.

However, this argument is not persuasive.

On page 343 Roth states:

> Use of a MAU approach requires combining the various attributes important to decision makers. This can be accomplished by developing a set of functions that weight each attribute and combining the attributes into a single metric (the reader is referred to Edwards & Newman 1982 for one methodology to generate these attributes and functions). The functions in Figure 1 implicitly weight each attribute via the total number of points associated with that attribute (e.g. 100 points for job performance versus 60 points for diversity) and allow combination of the attributes because each attribute is scaled in effectiveness points. One can illustrate how to combine the attributes as follows. The values of $1,468,750 and $1,121,250 would convert to 98 and 75 effectiveness points respectively. The d score values of 1.0 and .25 would be "worth" 0 effectiveness points and 45 effectiveness points. The legal ratings of 3 and 4 would be worth 36 and 48 points. Summing the scores across both options, the cognitive ability test would have 98 + 0 + 36 = 134 points and the interview would have 75 + 45 + 48 = 168 points.[3]

Thus Roth teaches **generating sets of task scores** (i.e. the points determined above) **based on a selected model design of task assignments** (a model of measuring employee performance based on a cognitive test and interview above) **utilizing said employee task data** (how the employees performed in the above tests).

(Additionally, this technique is exactly what the background of the applicant's own specification teaches as being prior art. Specifically paragraph 5 points to two prior art references that teach "generating sets of task scores based on a selected model design of task assignments". Thus this concept is old and well known – the examiner has relied upon Roth as teaching it.)

As per (3), the applicant argues that:

Selecting a centralized composite design as said model design;

is not taught by the cited references.

However, this argument is not persuasive;

As is shown above, Roth teaches combining performance scores to come up with a composite score. One of the issues that Roth acknowledges with MAU is what elements to measure. Specifically Roth states on page 341 in the intro:

> MAU also increases the participation of decision makers in the utility analysis process by asking them what factors to consider, how to measure the factors, and what functions should be used to combine them. This manu-

From this passage it is implied that an issue in constructing an MAU is identifying "what factors to consider". Part of the answer in identifying what factors to consider is provided by Trocine.

Trocines teaches what is known in the art about factorial designs (a factorial design is a centralized composite design) where this analytic approach allows a decision maker to identify which variables in a model are significant. This would be important to a person of ordinary skill in the art attempting to use MAU, as taught by Roth because it would provide insight into what variables would have an impact on employee performance – thus which variables should be included in an MAU performance model because they are shown to have a significant impact on overall performance. Thus not only is the teachings of Trocine shown in the art and combinable with Roth and Edwards to achieve a predictable result (obvious as per KSR), one of ordinary skill in the art would be motivated to use the teachings of Trocine because it would provide employee performance variables that are shown to be significant.

The fact that Roth teaches decision makers participating in MAU as far as selecting variables to measure and how to combine them does not rule out using other

techniques to identify what those variables are. Roth does not say that MAU **requires** decision makers to specify and select the inputs and weighting factors, but **allows** them to do so. Roth teaches that MAU is best when the inputs from decision makers is supplemented by something more than their own judgment (i.e. clinically). Furthermore, MAU helps the decision making process by forcing decision makers to be more explicit about their decisions as per the bottom of page 344:

"**in the absence of MAU they [decision makers] are likely to combine all the information in a clinical manner. The clinical approach is typically associated with less reliability and validity than statistical/mathematical combination strategies**". "**In this case, unreliability of the decision could result from variation in the choice of factors, operational measure of the factors or the implicit methods to combine the factors or measures of factors across decision makers. Use of the clinical approach also does not require decision makers to explicitly state their own logic. Such explanation would help them develop and clarify their own decision making policies**".

The examiner notes that Roth teaches that combining inputs clinically "is typically associated with less reliability and validity than statistical/mathematical combination strategies". This passage suggests using statistical/mathematical combination strategies as helping determine what the factors are as an input to the MAU. Trocine's technique **is** mathematical/statistical way to identify salient variables. Thus the two references would be combinable by one of ordinary skill in the art – the teaching

regarding statistical/mathematical techniques **suggests** the desirability of Trocine's technique, which is mathematical and statistical in nature.

As per (4), the applicant argues that:

Performing a plurality of evaluations of said sets of task scores, said evaluations assigning productivity scores to said sets of task scores;

is not taught by the cited references

MAU as taught by Roth evaluates individual performance (e.g. the cognitive test and interview as per above) to determine what the scores are for that performance (i.e. assigning productivity scores to the task scores).

On page 343, Roth mentions:

> Use of a MAU approach requires combining the various attributes important to decision makers. This can be accomplished by developing a set of functions that weight each attribute and combining the attributes into a single metric (the reader is referred to Edwards & Newman 1982 for one methodology to generate these attributes and functions). The functions in Figure 1 implicitly weight each attribute via the total number of points associated with that attribute (e.g. 100 points for job performance versus 60 points for diversity) and allow combination of the attributes because each attribute is scaled in effectiveness points. One can illustrate how to combine the attributes as follows. The values of $1,468,750 and $1,121,250 would convert to 98 and 75 effectiveness points respectively. The d score values of 1.0 and .25 would be "worth" 0 effectiveness points and 45 effectiveness points. The legal ratings of 3 and 4 would be worth 36 and 48 points. Summing the scores across both options, the cognitive ability test would have 98 + 0 + 36 = 134 points and the interview would have 75 + 45 + 48 = 168 points.[9]

A plurality of evaluations (i.e. an interview and cognitive test) – assigning productivity scores to said sets of task scores – 134 points for the cognitive test and 168 points for the interview.

As per (5), the applicant argues that:

analyzing said productivity scores to determine productivity parameters, wherein analyzing said productivity scores comprises applying linear regression techniques to said productivity scores utilizing said computing system;

is not taught by the cited references

However this argument is not persuasive.

The applicant alleges that Roth does not teach anything regarding using “a weighted combination of scores for tasks they perform”. The applicant states that the examiner is relying on some inherent disclosure of Roth. However, the except from page 343 above clearly states "**Use of an MAU approach requires combining the various attributes important to decision makers. This can be accomplished by developing a set of functions that weight each attribute and combining the attributes in a single metric**”. The attributes being weighted and scored in Roth are individual "productivity scores” as per the claim language. The teachings of Edwards regarding using linear regression is combinable with Roth because it provides what those weights should be (ie. regression is known to provide the weights or coefficients for variables or functions in the regression equation).

As per (6), the applicant argues that:

applying said productivity parameters to employee task scores for said employees to obtain said performance measures for said employees;

is not taught by the cited references

The examiner respectfully disagrees.

The applicants allege that the examiner is using hindsight and circular reasoning to reject the applicant's invention. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

The applicant argues that independent claims 22, 29 and 33 are patentable over the cited references.

The examiner respectfully disagrees

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

The applicant argues with respect to Claim 3 that claim 3 does not recite a second order polynomial.

The examiner respectfully disagrees.

The last term in the equation of claim 3, F_{tk} is multiplied by itself in the last term – thus the equation is a second order polynomial (i.e. one of the variables in the equation is squared - F_{tk} x F_{tk}). The argument that linear regression is applied to an expression for said productivity scores is not persuasive, since, as discussed above, Edwards teaches applying regression techniques to second order polynomials. Additionally, the allegation that Roth, in the rejection of claim 3, does not “teach individual tasks that a person performs where the tasks are combined in a utility function" is not persuasive. As discussed above in the excerpt from page 343, Roth shows combining the resulting scores from an interview and a cognitive test, i.e. combining tasks in a utility function.

The applicant argues with respect to claims 16 and 34 that the cited references fail to teach productivity value or tasks and that Roth fails to teach individual tasks that a person performs where the tasks are combined in a utility function.

The examiner respectfully disagrees.

As discussed above, Roth teaches a productivity value and tasks and tasks where they are combined in a utility function.

> Use of a MAU approach requires combining the various attributes important to decision makers. This can be accomplished by developing a set of functions that weight each attribute and combining the attributes into a single metric (the reader is referred to Edwards & Newman 1982 for one methodology to generate these attributes and functions). The functions in Figure 1 implicitly weight each attribute via the total number of points associated with that attribute (e.g. 100 points for job performance versus 60 points for diversity) and allow combination of the attributes because each attribute is scaled in effectiveness points. One can illustrate how to combine the attributes as follows. The values of $1,468,750 and $1,121,250 would convert to 98 and 75 effectiveness points respectively. The d score values of 1.0 and .25 would be "worth" 0 effectiveness points and 45 effectiveness points. The legal ratings of 3 and 4 would be worth 36 and 48 points. Summing the scores across both options, the cognitive ability test would have 98 + 0 + 36 = 134 points and the interview would have 75 + 45 + 48 = 168 points.[3]

The interview and cognitive ability test are "tasks" that are weighted and scored (i.e. productivity values) – the beginning of the passage notes that these scores or values are inputs into a utility function.

The applicant argues with respect to claim 5 that the cited references (i.e. Trocine) fail to teach the limitations claimed.

The examiner respectfully disagrees.

The extent of the applicant's argument here is that Trocine, which is relied upon to teach the claimed limitations, fails to teach "generating sets of task scores" and then alleges that Trocine fails to teach the verbatim limitations of claim 5. The examiner notes that this is a mere allegation of patentability. Trocine was not relied upon to teach generating sets of tasks scores. Roth was relied upon for generating sets of tasks scores. Trocine was relied upon for the teaching related to the use of fractional factorials to limit the number of variables (i.e. task scores) – see page 751 column 2 bottom paragraph.

The applicants arguments with respect to claims 14 and 23 are not persuasive since they amount to a mere allegation of patentability.

The applicant argues with respect to Claims 8 and 24 that the cited limitations fails to teach **generating comprises adding a number of recorded task scores to said sets of task scores**

The examiner respectfully disagrees.

The applicant alleges that Roth fails to teach generating scores. As discussed above on page 343 (see excerpt), Roth teaches generating scores based on an example of how one person performed on an interview and on a cognitive test. These are scores. The "measures of attributes" discussed in the last paragraph of page 352 are those scores generated using an MAU approach. The development of a minimum and maximum values for measures requires at least two sets of task scores – one for the minimum and one for the maximum. Thus, this suggests adding a number of recorded task scores to said sets of task scores (e.g. adding the minimum set to the maximum set to identify the range).

The applicant argues with respect to claim 9 that the cited references fail to teach

wherein said sets of task scores are scaled to represent performance by employees over a common work period with a fixed number of hours worked

The examiner respectfully disagrees.

The examiner notes that the phrase "**to represent performance by employees over a common work period with a fixed number of hours worked**" is intended use and does not further limit the claim. The sets of tasks scores by Roth includes those items which are scored as inputs into a MAU utility function (e.g. an interview and a cognitive ability test) – this "scoring" using weights would meet the limitation of "scaling". Additionally the determination of minimums or maximums as discussed above for claim 8 (page 352) would meet the limitation of "scaled" scores since the sets of scores would be scaled up or down to determine the minimum or maximum (see also page 354 top paragraph for another discussion about scaling scores). The examiner further notes that the activities, i.e. an interview and a test, suggest that the activities of the employees occur over a common work period.

The allegation that Roth does not teach anything to do with employee performance is not persuasive, because as is pointed out above, Roth addresses how to measure employee performance using multi-attribute utility analysis (see also the top of page 348). The MAU approach taught by Roth has everything to do with measuring employee productivity. Further the top two paragraphs of page 349 suggest that measures for an MAU approach should be consistently applied (the use of MAU in evaluating job candidates implies that the measurement standards would be consistent across candidates – ie using a common work period with a fixed number of hours worked).

The applicant argues with respect to claim 10 that the cited references fail to

teach the limitations of:

wherein said plurality of evaluations are performed by a plurality of evaluators, said evaluators being familiar with said task assignments and with assigning productivity scores

The examiner respectfully disagrees.

The examiner notes that this limitation is an intended use limitation – whether the evaluations are performed by one or many evaluators and whether the evaluators are familiar with the task assignments and assigning scores or they are not familiar, this would not change the productivity scoring of Claim 1. Even so, Roth teaches a plurality of evaluators who are familiar with the task assignments and with assigning productivity socres (see Page 350 para 2; see also page 343 para 2, the decision makers (i.e. plurality of evaluators since they are making the decision about hiring) are familiar with the task assignments (i.e. the hiring of employees – the interview and the cognitive test) and with assigning productivity scores – since the decision makers are assigning scores as per an MAU approach, this suggests they would have at least a rudimentary familiarity with assigning productivity scores.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Jonathan G. Sterrett/
Primary Examiner 3623
4-28-2010

Conferees:

Beth Boswell /bvb/

SPE, Art Unit 3623

Scott Jarrett

Primary Examiner, Art Unit 3624

/Scott L Jarrett/
Primary Examiner, Art Unit 3624